Land use change and local people's perception of the effects of change in Ssese islands, Uganda.

By,

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Background

- In Uganda there has been a rapid trend in Land use change primarily due to Government Policies in Agricultural Investments and diversification of economy
- In line with Poverty Eradication Action Plan (PEAP) and Plan for Modernization of Agriculture (PMA), The Vegetable Oil Development Project (VODP) was started.
- As a component of VODP, 10,000ha of oil palm plantations is currently being planted in Bugala Island (One of Ssese islands in L. Victoria) at the expense of Forests and grasslands.

Clearing of Forests for oil palms

Background (Continues)

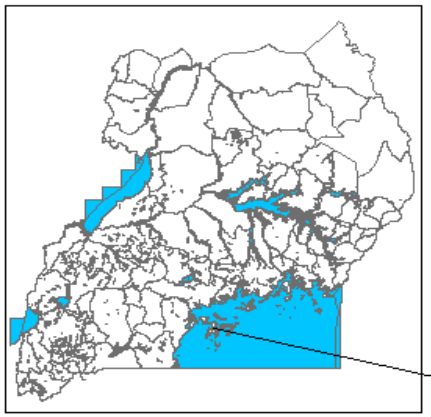
- Degazettlement of Forests reserves for oil palm growing of course triggered reaction from Environmental activists.
- However Land use change due to human activities can be viewed as an improvement until demonstrated otherwise.
- Since the target group for development is Local people, what would be their opinion about effects of land use change in Ssese islands?

Objectives of the study were:

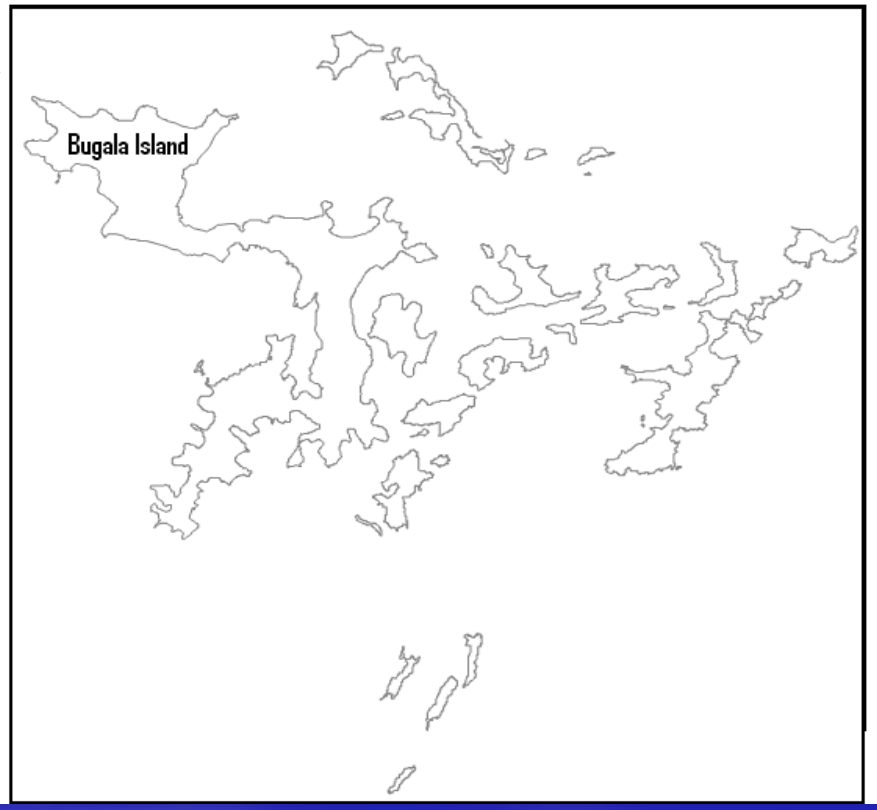
- To determine the trend and extent of land use change in Bugala Island.
- To identify the underlying driving forces of land use change in the Island.
- To assess the local people's perception of the effects of change in the island.

Study Area

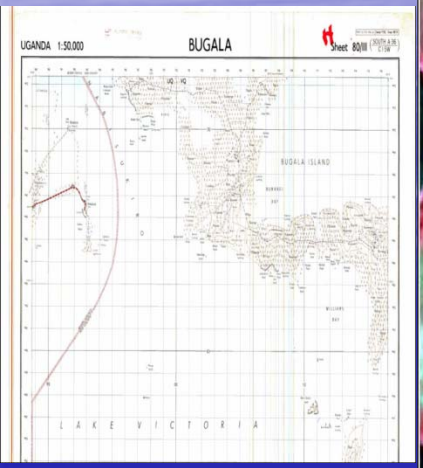
A map of Uganda showing the location of Ssese islands

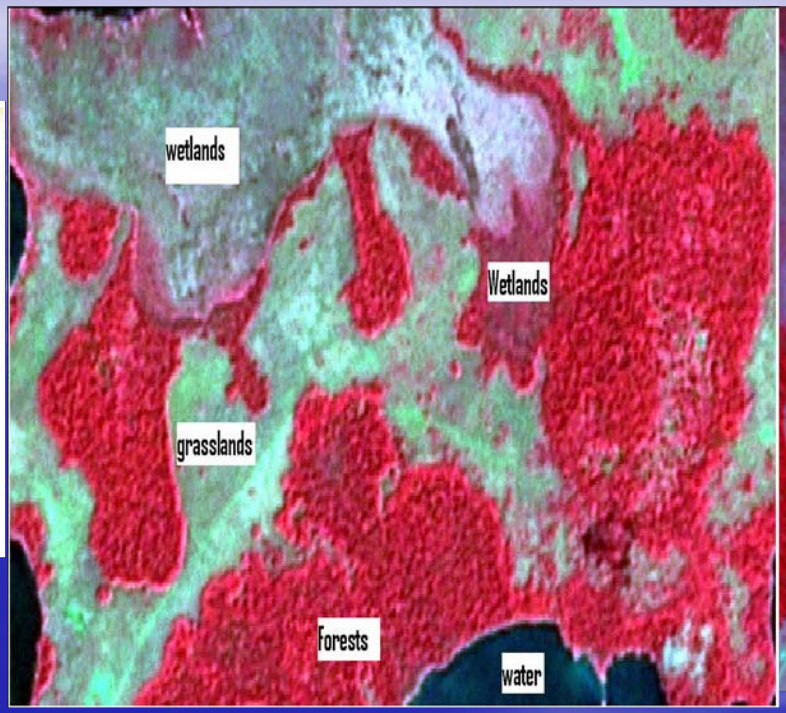


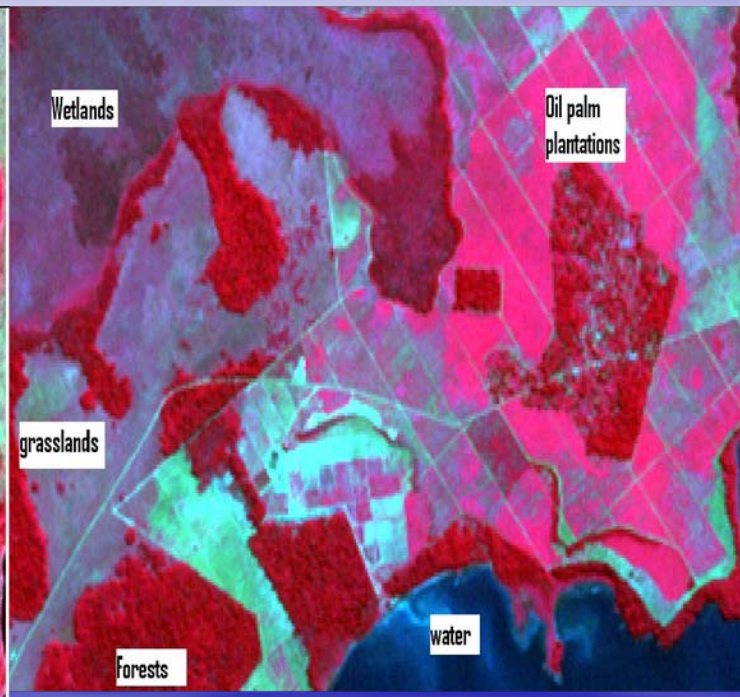
A map of Ssese islands showing the Location of Bugala Island



Materials







Topographic maps -1960
-Developed from Aerial photos of 1955-1959.

Sub-section of Landsat Tm image- October 2001
-Used B2, B3, B4 pan sharpened to 15 m resolution

Sub-section of Aster image -June 2006
-used B1, B2, B3 having 15m resolution

Data Collection Methods

A. Historical land use mapping

- Sheets scanned and digitised in ILWIS

B. Mapping from Remotely sensed images

- Images processes in ILWIS and Visually classified

C. Ground truthing

- Used hand-held GPS receiver and camera

D. Administration of questionnaires

- A total of 183 local people were interviewed using semi structured pretested questionnaires

E. Participatory Rural Appraisal

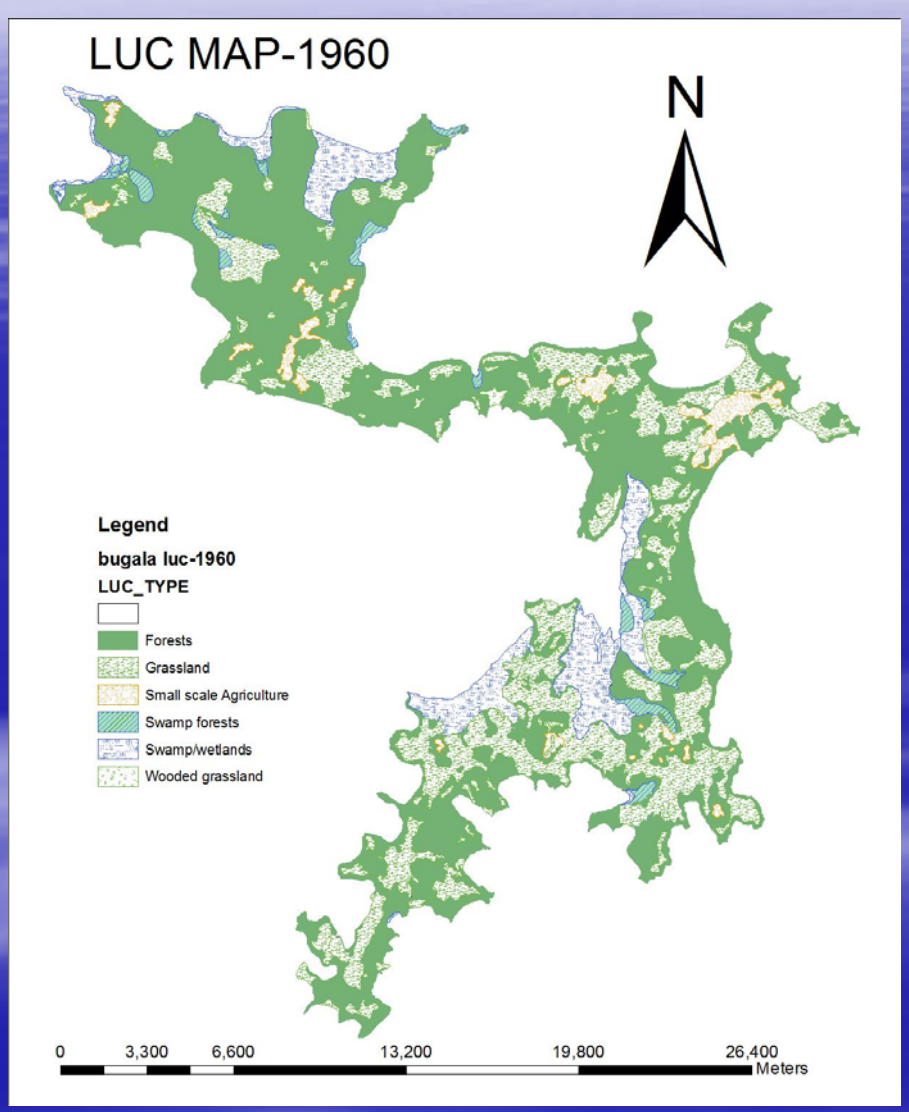
- Two sessions of focus group discussions were held with attendances of 60 and 44 respectively

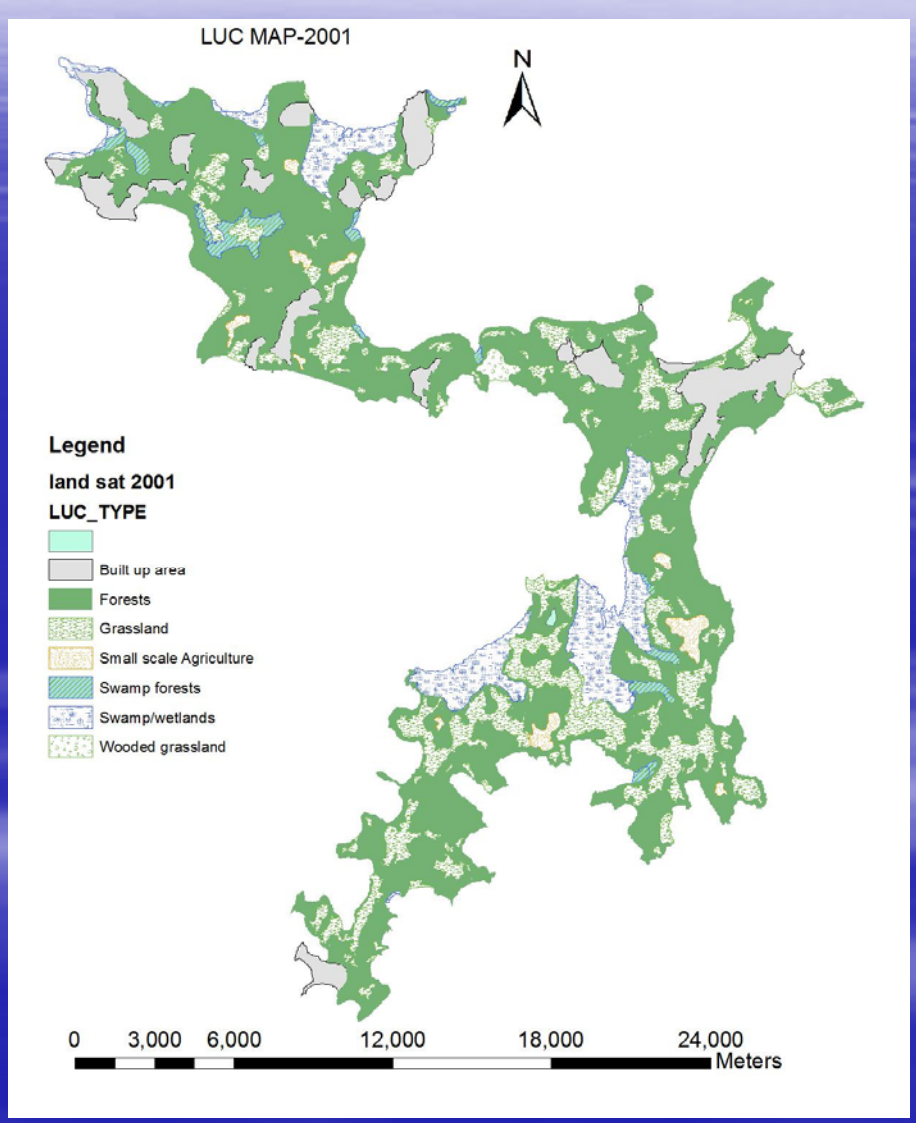
Data Analysis

1. The 3 maps from Topo sheets, Landsat and Aster images were analysed in Arcview. Areas of each land use type was calculated from attribute table and Map Cal. For Change analysis.
2. The questionnaires were edited, coded, entered, analysed in SPSS software and summarised into descriptive statistics
3. The Focus group discussions were analysed using pair wise matrix ranking involving local people participation.

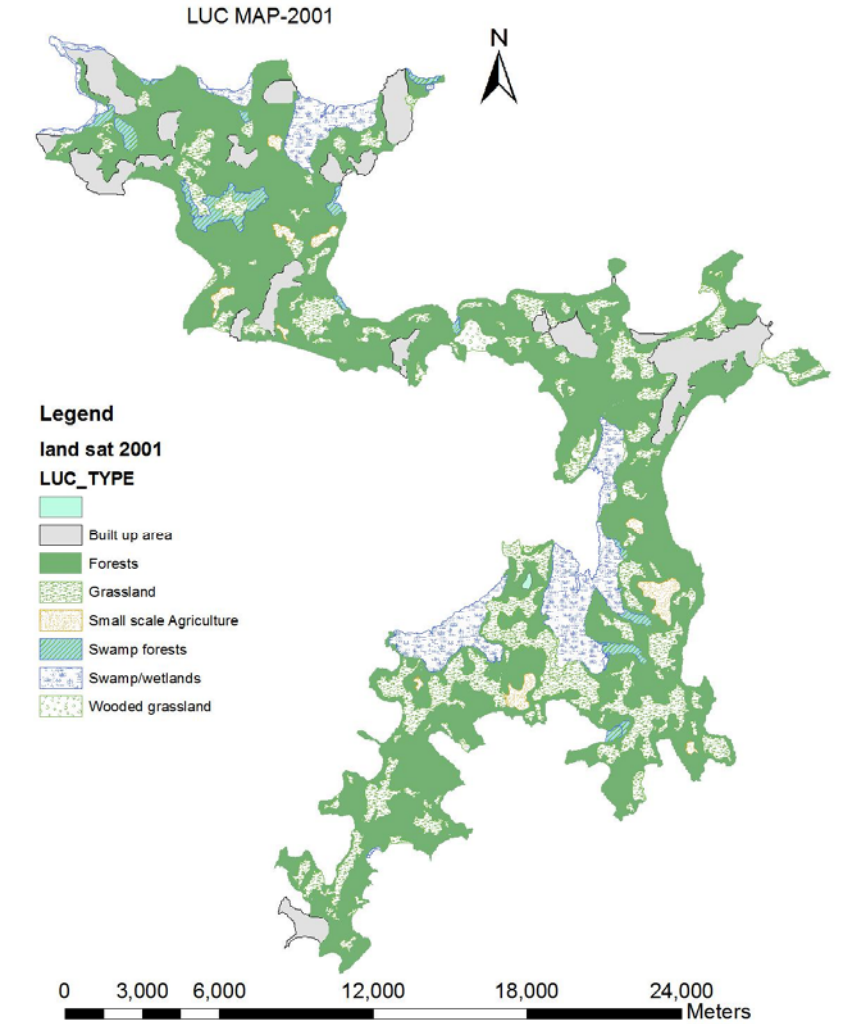
Results

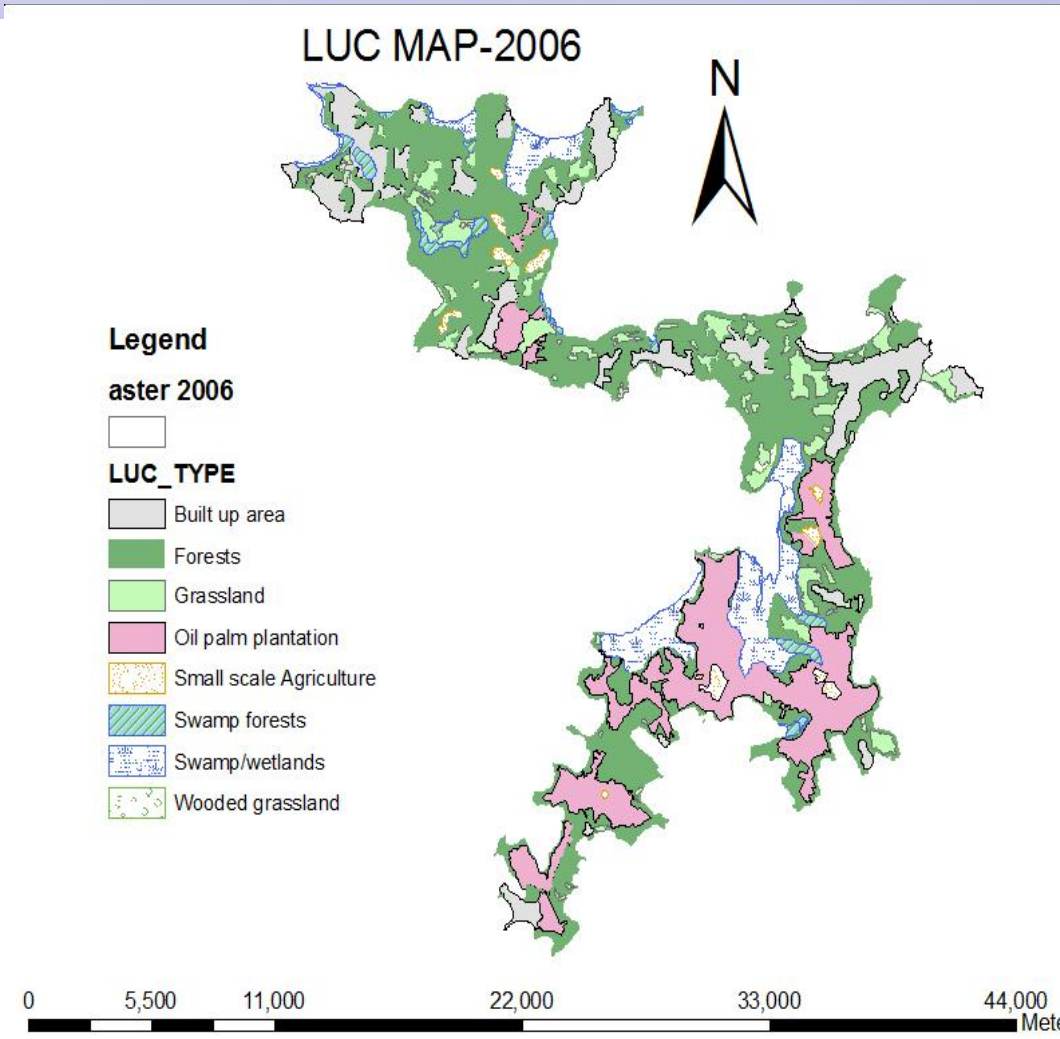
Land use/cover maps for the Years 1960 and 2001





Land use/cover maps for the Years 2001 and 2006



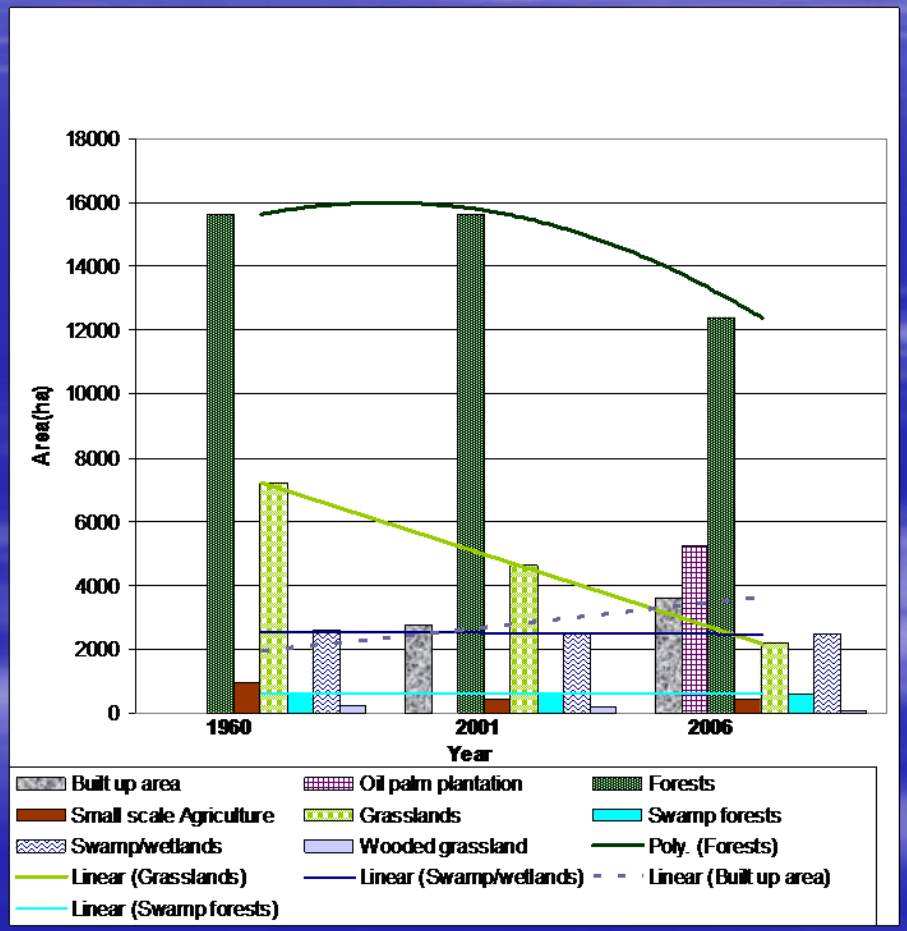


Trends in land use change

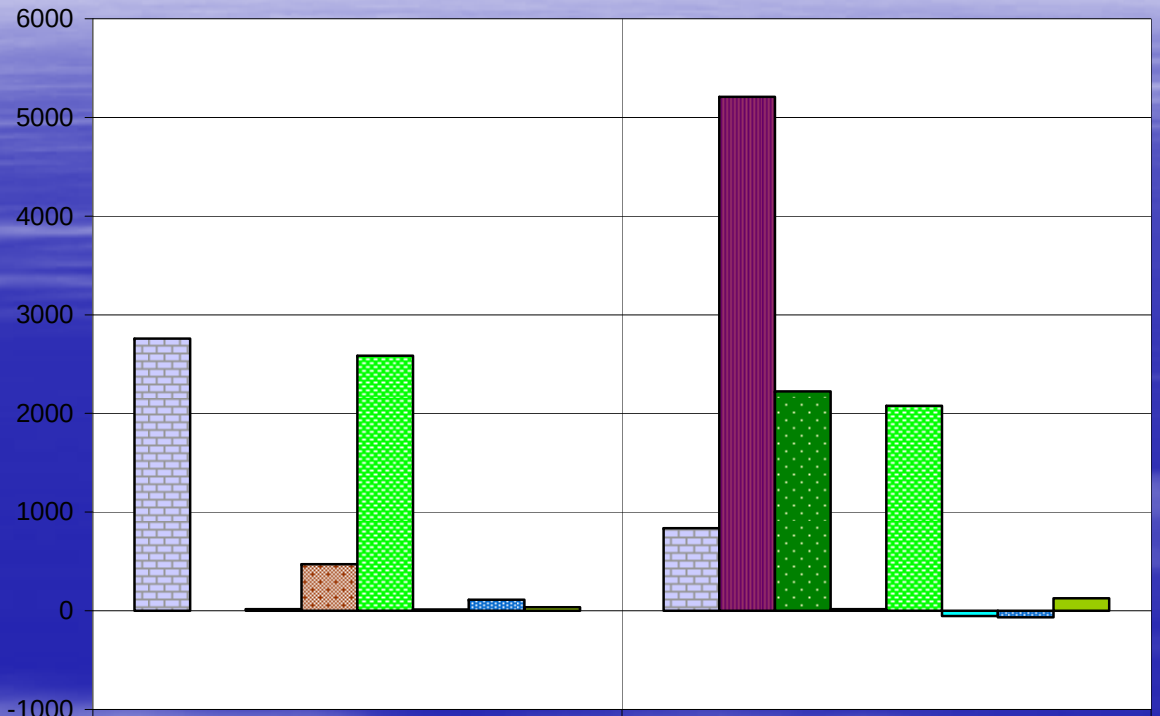
Table showing the area coverage per land use type for years 1960, 2001 and 2006

Land use/cover type	Area coverage in 1960		Area coverage in 2001		Area coverage in 2006	
	Area(ha)	Area (%)	Area(ha)	Area (%)	Area(ha)	Area (%)
Built up area			2,759.30	10.34	3,598.43	12.66
Oil palm plantation			0.00	0.00	5,207.87	18.34
Forests	15,621.82	57.54	15,604.97	58.50	13,382.07	47.12
Small scale Agriculture	912.96	3.36	440.36	1.65	425.44	1.50
Grasslands	7,228.32	26.62	4,644.74	17.41	2,568.98	9.05
Swamp forests	604.34	2.23	590.93	2.22	642.81	2.26
Swamp/wetlands	2,582.94	9.51	2,471.53	9.26	2,537.18	8.93
Wooded grassland	200.29	0.74	165.23	0.62	39.41	0.14
Total	27,150.66	100.00	26,677.07	100.00	28,399.97	100.00

A graph showing the trends in land use/cover change



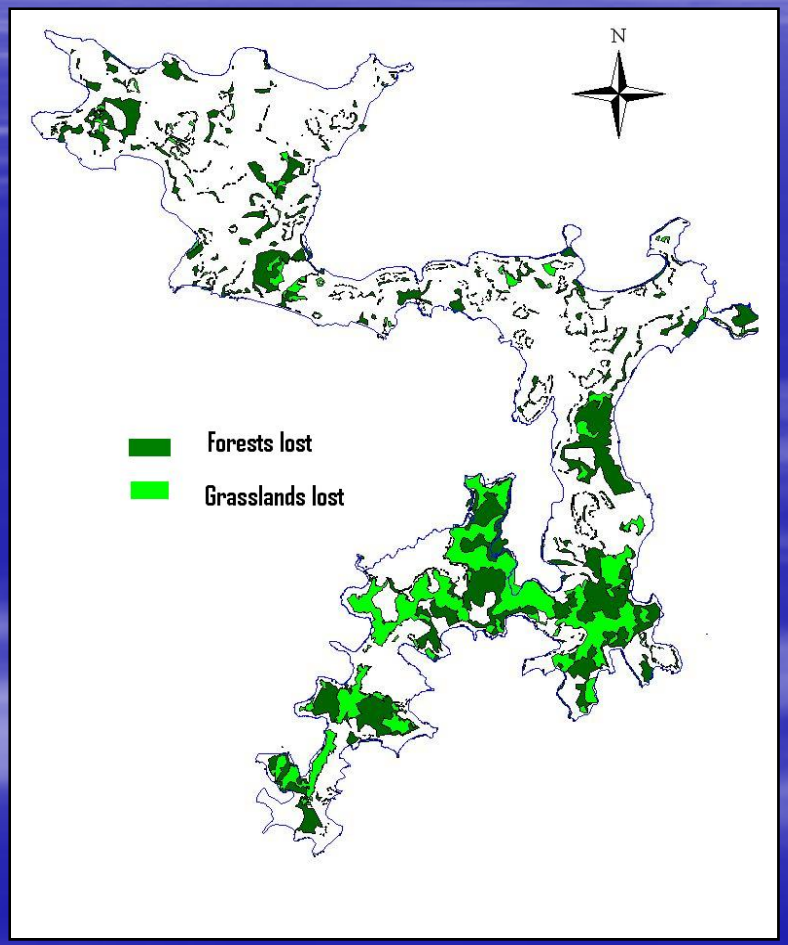
Extent of Land use Change



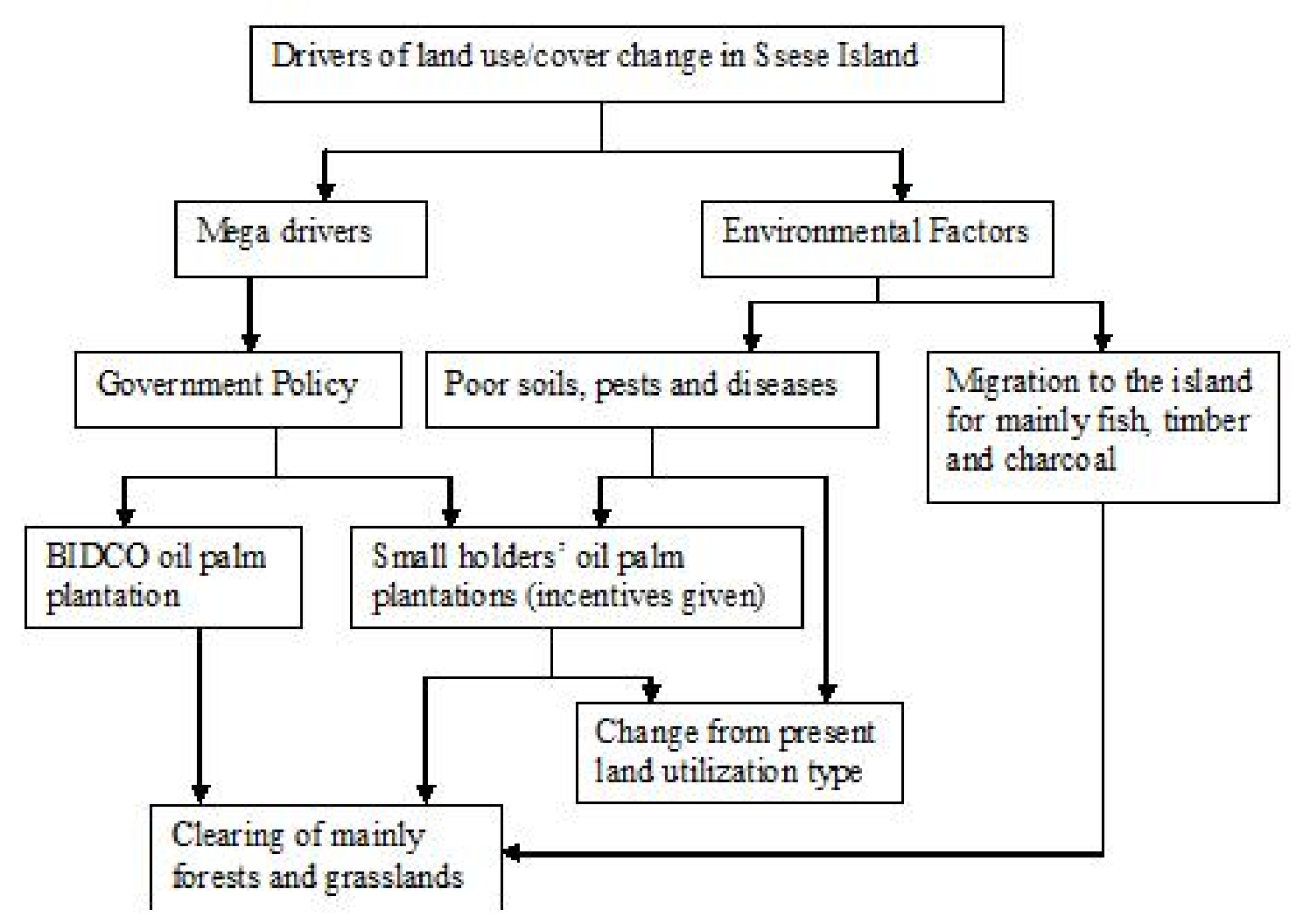
	1960-2001(ha)	2001-2006(ha)
Built up area	2759.30	837.13
Oil palm plantation	0.00	5207.67
Forests	16.85	2222.90
Small scale Agriculture	472.60	14.92
Grasslands	2583.58	2075.78
Swamp forests	13.41	51.88
Swamp/wetlands	111.41	65.65
Wooded grassland	35.06	125.82

Years

Change Map for Forests and Grassland Land Covers

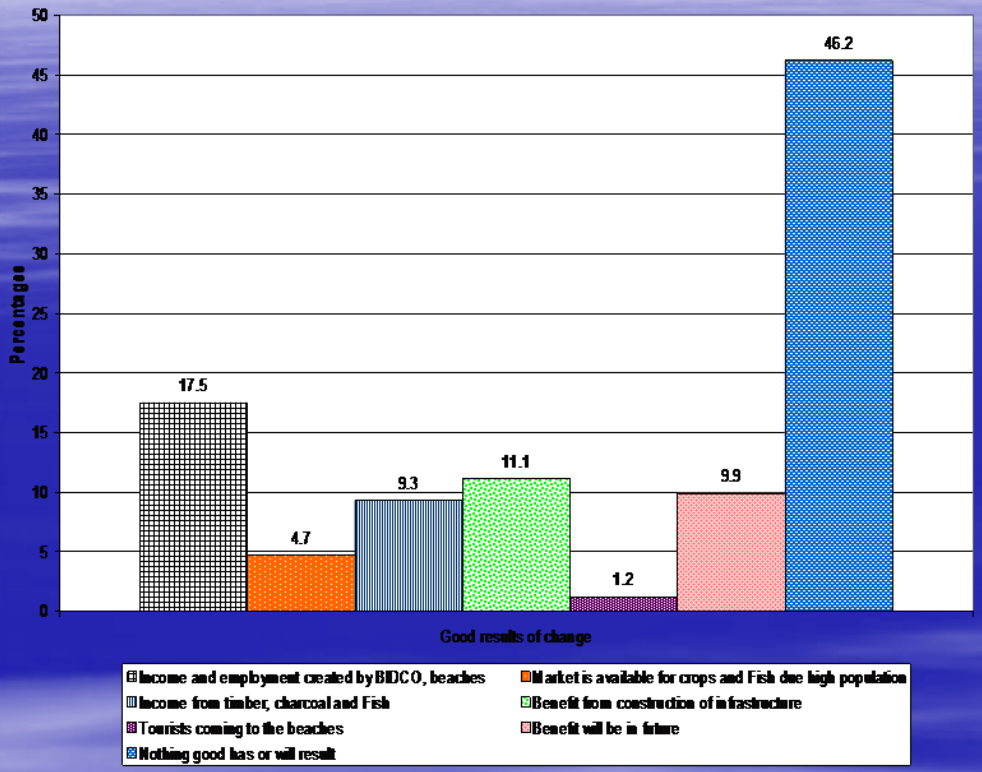


Drivers

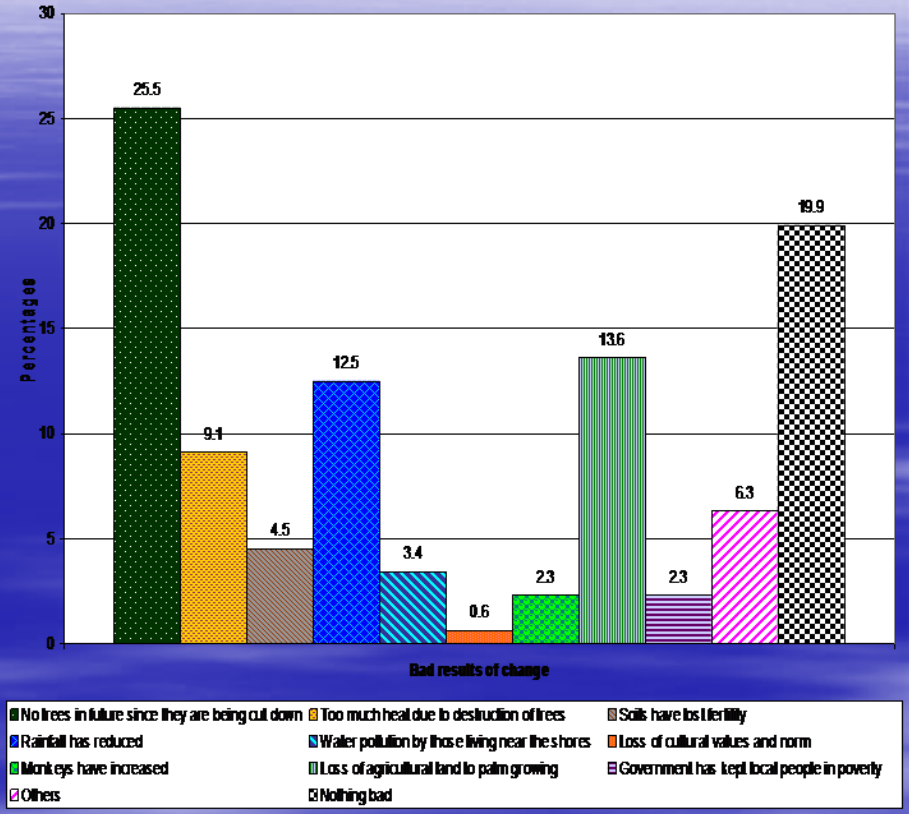

Drivers of land use/cover change in Ssese Island
Mega drivers
Environmental Factors
Government Policy
Poor soils, pests and diseases
Migration to the island for mainly fish, timber and charcoal
BIDCO oil palm plantation
Small holders' oil palm plantations (incentives given)
Change from present land utilization type
Clearing of mainly forests and grasslands

Some Photos for Drivers of Land use Change

.Local People's Perception



A chart showing responses about good results of land use/cover change



A chart showing responses about bad results of land use/cover change

Conclusions

- Before 2001 land use change was gradual, drastic change occurred on the island between 2001 and 2006 with Introduction of Large Scale Agriculture
- The Mega driver of Land use/cover change was government policy to establish oil palm on the island
- Contrary to government policy to alleviate poverty, the locals view introduction of oil palm more negatively in preference to socio-economic and ecological values they attach to forests

Acknowledgement

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Thank you for Listening